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Dated: July 15, 2005

Signature: Denise Kacinski  
(Denise Kacinski)

JC01 Rec'd PCT/PTO 19 JUL 2005  
PCT

Docket No.: 62046(51588)  
(PATENT)

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:  
J. K. Joung

Application No.: 10/532,031

Confirmation No.: Unknown

Filed: April 21, 2005

Art Unit: N/A

For: METHODS FOR PRODUCING ZINC  
FINGER PROTEINS THAT BIND TO  
EXTENDED DNA TARGET SEQUENCES

Examiner: Not Yet Assigned

### INFORMATION DISCLOSURE STATEMENT (IDS)

MS Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is filed within three months of the U.S. filing date (37 CFR 1.97(b)(1)).

A copy of each reference on the PTO/SB/08 is attached.

In accordance with 37 CFR 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR 1.56(a) exists. In accordance with 37 CFR 1.97(h), the filing of this Information Disclosure statement shall not be construed to be

an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such.

It is submitted that the Information Disclosure Statement is in compliance with 37 CFR 1.98 and the Examiner is respectfully requested to consider the listed references.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 04-1105, under Order No. 62046(51588). A duplicate copy of this paper is enclosed.

Dated: July 15, 2005

Respectfully submitted,

By Amy Leahy  
Amy M. Leahy  
Registration No.: 47,739  
EDWARDS & ANGELL, LLP  
P.O. Box 55874  
Boston, MA 02205  
(203) 975-7505  
Attorneys/Agents For Applicant



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Substitute for form 1449A/B/PTO				Complete if Known	
				Application Number	10/532,031
				Filing Date	April 21, 2005
				First Named Inventor	J. K. Joung
				Art Unit	N/A
				Examiner Name	Not Yet Assigned
Sheet	1	of	2	Attorney Docket Number	62046(51588)

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
AA	US-2002/0146691	10/10/2002	CASE et al.		
AB	US-2002/0119498	08/29/2002	JOUNG et al.		
AC	US-2002/0081614	06/27/2002	CASE et al.		
AD	US-6,410,248	06/25/2002	GREISMAN et al.		
AE	US-2002/0064824	05/30/2002	CHOO et al.		
AF	US-6,326,166	12/04/2001	POMERANTZ et al.		
AG	US-6,013,453	01/11/2000	CHOO et al.		

FOREIGN PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)			
					T <sup>6</sup>

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NON PATENT LITERATURE DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			T <sup>2</sup>
CA		WOLFE et al. "DNA Recognition by Cys2His2 Zinc Finger Proteins." Annu Rev Biophys Biomol Struct. 29: 183-212 (2000)			
CB		BEERLI et al. "Engineering Polydactyl Zinc-Finger Transcription Factors." Nat Biotechnol. 20(2): 135-141 (2002)			
CC		JOUNG et al. "A bacterial two-hybrid selection system for studying protein-DNA and protein-protein interactions." Proc. Natl. Acad. Sci. USA 97(13) 7382-7387 (2000)			
CD		JOUNG et al. "Identifying and modifying protein-DNA and protein-protein interactions using a bacterial two-hybrid selection system." J Cell Biochem Suppl. 37: 53-57 (2001)			
CE		PABO et al. "Design and selection of novel Cys2His2 zinc finger proteins." Annu Rev Biochem. 70: 313-340 (2001)			
CF		ISALAN et al. "A rapid, generally applicable method to engineer zinc fingers illustrated by targeting the HIV-1 promoter." Nature Biotechnology 19: 656-660 (2001)			
CG		URNOV et al. "Designed transcription factors as structural, functional and therapeutic probes of chromatin in vivo: Fourth in review series of chromatin dynamics." EMBO Rep. 3(7): 610-615 (2002)			
CH		DREIER et al. "Development of zinc finger domains for recognition of the 5'-ANN-3' family of DNA sequences and their use in the construction of artificial transcription factors." J. Biol. Chem. 276(31): 29466-29478 (2001)			
CI		BEERLI et al. "Toward controlling gene expression at will: Specific regulation of the erbB-2/HER-2 promoter by using polydactyl zinc finger proteins constructed from modular building blocks." Proc. Natl. Acad. Sci. USA 95: 14628-14633 (1998)			
CJ		LIU et al. "Design of polydactyl zinc-finger proteins for unique addressing within complex			

Examiner Signature		Date Considered
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Sheet	2	of	2	Attorney Docket Number	62046(51588)

	genomes." Proc. Natl. Acad. Sci. USA 94: 5525-5530 (1997)	
CK	URNOV et al. "Designed transcription factors as tools for therapeutics and functional genomics." Biochemical Pharmacology 64: 919-923 (2002)	
CL	URNOV et al.	
CM	SEGAL et al. "Toward controlling gene expression at will: Selection and design of zinc finger domains recognizing each of the 5'-GNN-3' DNA target sequences." Proc. Natl. Acad. Sci. USA 96: 2758-2763 (1999)	
CN	ORDIZ et al. "Regulation of transgene expression in plants with polydactyl zinc finger transcription factors." PNAS 99(20): 13290-13295 (2002)	
CO	GUAN et al. "Heritable endogenous gene regulation in plants with designed polydactyl zinc finger transcription factors." PNAS 99(20): 13296-13301 (2002)	
CP	DREIER et al. "Insights into the molecular recognition of the 5'-GNN-3' family of DNA sequences by zinc finger domains." J. Mol. Biol. 303: 489-502 (2000)	
CQ	XU et al. "Selective inhibition of P-glycoprotein expression in multidrug-resistant tumor cells by a designed transcriptional regulator." The Journal of Pharmacology and Experimental Therapeutics 302(3): 963-971 (2002)	
CR	ZHANG et al. "Synthetic zinc finger transcription factor action at an endogenous chromosomal site." J. Biol. Chem. 275(43): 33850-33860 (2000)	
CS	DOVE et al. "Activation of prokaryotic transcription through arbitrary protein-protein contacts." Nature 386: 627-630 (1997)	
CT	LIU et al. "Regulation of an endogenous locus using a panel of designed zinc finger proteins targeted to accessible chromatin regions." J. of Biol. Chem. 276(14): 11323-11334 (2001)	
CU	LIU et al. "Validated zinc finger protein designs for all 16 GNN DNA triplet targets." J. Biol. Chem. 277(6): 3850-3856 (2002)	
CV	BARTSEVICH et al. "Regulation of the MDR1 gene by transcriptional repressors selected using peptide combinatorial libraries." Molecular Pharmacology 55: 1-10 (2000)	

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<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.

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Application No. (if known): 10/532,031

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IDS (Citation) by Applicant (29 References) (2 pages)  
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